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Standards

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I.S. EN 13835:2012

Founding - Austenitic cast irons

I.S. EN 13835:2012

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Founding - Austenitic cast irons

Fonderie - Fontes austénitiques

Gießereiwesen - Austenitische Gusseisen

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Foreword

This document (EN 13835:2012) has been prepared by Technical Committee CEN/TC 190 "Foundry technology", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2012, and conflicting national standards shall be withdrawn at the latest by July 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. CEN [and/or] CENELEC shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13835:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Within its programme of work, Technical Committee CEN/TC 190 requested CEN/TC 190/WG 8 "High alloyed cast iron" to revise EN 13835:2002.

Annex H provides details of significant technical changes between this European Standard and the previous edition.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard classifies a range of cast irons principally used for their heat and corrosion resistance properties. These properties are obtainable from the engineering grades in this European Standard. The special purpose grades also exhibit heat and corrosion resistance properties, but are used principally for their magnetic properties, or very low expansion characteristics.

The austenitic cast irons are a range of high-alloyed materials with an austenitic matrix, containing nickel, manganese and sometimes copper and chromium. Carbon is present either as graphite flakes or as spheroids. The spheroidal graphite grades have superior mechanical properties.

The properties of the austenitic cast irons depend upon them having the appropriate structure and mechanical properties for the application. These properties are dependent upon the control of metal composition within the specified grades and the metal processing route.

Typical applications for the various grades are given in Annex A.

In this European Standard a new designation system by number, as established in EN 1560 [3], is given.

NOTE This designation system by number is based on the structure and rules of EN 10027-2 [4] and so corresponds with the European numbering system for steel and other materials.

Some austenitic cast iron grades can be used for pressure equipment.

The permitted material grades of austenitic cast iron for pressure applications and the conditions for their use are given in specific product or application standards.

For the design of pressure equipment, specific design rules apply.

Annex ZA gives information relating to the conformance of permitted austenitic cast iron grades to the Pressure Equipment Directive 97/23/EC.

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